12. The Operational Problems of Economic Networks in the New Media Sector (Hungary)

Peter Csizmadia
Csaba Mako

1. Introduction

In the present case study we are going to present a model of cooperation established among small and micro-enterprises to implement a joint project in the interactive media sector. The study also covers the theoretical background that is instrumental to describing the cooperation, furthermore, it sheds light upon the economic and labor market environment of the project. The analysis of the case focuses upon the economic and social regulatory mechanisms that exerted influence on the behavior of the partners in the cooperation, and shows how the specific interests of the parties and their interaction enhanced or impeded the successful implementation of the project.

We decided to deal with the cooperation among companies in the new media sector and selected a concrete example to demonstrate the problems arising from such cooperation. The rationale behind this choice is that in this sector business models based on cooperation among small and medium-sized enterprises that share resources, primarily knowledge, are fairly common. This model can at the same time serve as the model of the network economy.

To provide a more transparent picture of the case, we are going to present some economic and labor market indicators of the ICT, more precisely of the new media (1) sector. In this we primarily relied on an as yet unpublished study by Tót-Makó-Tamási.

Based on 2002 data for the ICT sector, the proportion of those employed in this sector is approximately 3.6% within the national economy. The number of those working in the multimedia sector can only be estimated at 15-20,000 on the basis of available statistical data.

Based on their numbers of employees, the overwhelming majority of enterprises in this sector are micro- or small-sized enterprises, with very few medium-sized company exceptions.

Table 1: Employing capacity of ICT companies, 2002

Number of employees	**1 – 9**	**10 – 19**	**20 – 49**	**50 –**
Number of companies	6,780	227	111	58

KSH, 2002; Hungarian Statistical Yearbook 2001.

Based on statistical estimates, the number of enterprises in the field of multimedia development in the ICT sector is approximately 10-12,000. This accounts for 52% of the sector in total. Note, however, that the proportion of enterprises dealing exclusively with new media is significantly smaller.

The other specific feature of the new media sector is its geographical concentration. Enterprises with multimedia-related core businesses are concentrated almost exclusively in the capital, Budapest, and they are to some extent overrepresented in the university cities in the countryside.

Taking into account the conclusions of a study by Sandberg and Augustsson (2002) and our own results, we summarize some distinctive features of the sector below:

- Enterprises in this sector are young enterprises, the majority of which started their operations after 1996.
- Enterprises in the interactive media sector provide services exclusively for corporate clients; they do not offer direct production, sales or service activities in the retail sector.
- The majority of those working in interactive media are under 30 years of age.
- Professional and other types of knowledge required in the sector cannot be acquired through formal education channels, or can only be acquired with difficulties. On-the-job-training is a priority area.
- The combined knowledge to successfully implement multimedia projects is frequently not available within one organization; therefore, most projects are implemented in networks based on cooperation among various enterprises.

2. Producing the New Portal for the Economic Weekly

2.1 Description of the project and the partners involved

The project was launched in the second half of 2001. One of the leading Hungarian economic weeklies, T., replaced the whole management of its subsidiary, T. Online Plc., which was established to publish the weekly on-line. The new management was put in charge of developing a new Internet portal. They invited bidders to participate in two tenders; one tender was aimed at the design, the other at the technical development of the portal.

Hungarian and foreign companies were invited to bid for both tenders, with the future winning prime contractor, P. Plc. among them. P. Plc. won the tender for the design of the portal. The management of P. Plc. managed to be involved in the selection process of the winning bid for the technical development system in an advisory capacity before the final decision. In the course of the advisory work, P. Plc. got acquainted with M. Ltd., and suggested that M. Ltd. should be awarded the winning contract. T. Plc. decided to award both contracts to P. Plc. as the prime contractor. Later on P. Plc. subcontracted M. Ltd. for the technical development project.

Interviewees of this research are as follows.

Interviewee	Sex	Status
K. H.	Male	Owner, branch manager P. Plc.
P.T.	Male	Managing director M. Ltd.
G. I.	Male	Branch manager E. Ltd. (project process advisor)

2.1.1 Companies involved in the project

P. Co.

P. Plc. was set up in 1996 as a general graphic design studio, with a staff of two. In the same year it secured a contract for the development of a website; after that it gradually transformed its profile into that of a web-design studio. In 1999, it transformed its form of operation into a limited liability company, and the company's annual revenue reached HUF 50 million. At that time the company employed 10 people. The breakthrough in the life of the company came as it rode the Internet boom in 2000. In half a year, the number of employees increased to 40, and professional management was put in place. In 2001, 80 people already worked for the company; however, as the result of the dotcom crisis, the number of employees has dropped to 55 by now. The activities of the company cover the following two areas:

- Interactive communication
- E-business

The area of interactive communication includes services such as the design and implementation of on-line campaigns, on-line media design and purchasing, the development of brand websites, banners, interactive advertising and communication materials.

In the area of e-business, the design and development of corporate websites, intranet systems, electronic market spaces, and other transaction systems are included. In this area, the company has products of its own: a portal system and a content-management system. 90% of the company's activity is focused on services, while the remaining 10% is made up of sales.

M. Ltd.

The owners established M. Ltd. in 2001 to further develop and distribute a then partly developed product of their own. The product is an XML-based (2) Internet portal framework system, operating several applications. At the time of the project implementation, the company employed eight people, out of whom six worked as developers, and two were responsible for administrative tasks. Since then the employees (and some of the owners) have been replaced. This process started in the course of the project presented in this case study. Currently six developers work for the company.
The two areas of activities are:

- Sales
- Online services, development

In distribution, the company primarily sells various units of technologies developed in-house, such as an editorial portal, an e-store, and a web-constructing application. It provides ASP services, which involve the operation and after-sale support of sold products.

I.G., advisor

I.G. got involved in the advisory process prior to the final decision on the winning bid. Back then he was the manager of the Hungarian Internet portal named p.hu. The portal primarily provides services related to tertiary

education. Apart from this, I.G. is currently the director of the leading Hungarian entertainment and information magazine's online branch.

2.2 Stages of project implementation

In our second case study[54] we pointed out that the implementation process of Internet-based development projects is concentrated around three closely related stages.

The distinctive feature of this area is that the knowledge and skills required to perform the individual sub-tasks are rarely available within one organization; therefore, these projects are implemented within the framework of cooperation among companies. In the stages and tasks of the implementation process, various organizations are present according to their weight and expertise in a particular field. The cooperation of the partners is regulated by complex professional and social controls and cooperation mechanisms, which is primarily due to the partners' different competences. Like the second case study we presented, the portal development project of T.'s economic weekly was carried out in several stages:

1. The management of T., one of the leading economic weeklies in Hungary, decides to dismiss and replace the management of T. Online Plc., responsible for the on-line publication of the weekly.
2. The new management issues two invitational tenders: one for the design of the portal, and one for the required technical development.
3. The description of the tasks in the tender for technical development turns out to be inaccurate. P. Plc. suggests that an advisory process accompanied by a technological needs analysis should be initiated.
4. T. Online Plc. announces the first tender for the technical development void. They commission P. Plc. as an advisor, and P. Plc. involves an external collaborator, I.G., in the work. The advisory process takes two weeks to complete. During those two weeks, needs are being specified, and bidders present the technologies they offer. T. Plc. conducts negotiations with the bidders directly as well as through the advisors. By the end of the process, the technological demands of T. Plc. multiply as compared to the original ideas. P. Plc. suggests that the final decision be made in favour of M. Ltd., whom they recommended initially.
5. T. Plc. concludes a contract with P. Plc., the prime contractor, who then subcontracts M. Ltd. The implementation of the project commences.
6. As early as the first few weeks after the commencement, it becomes clear that M. Ltd. cannot meet the strict deadlines set down in the contract. Deadlines are regularly missed. The project that was scheduled for completion in three months takes six months to finish. In the meantime, part of the M. Ltd. development team is replaced.
7. The project is completed. T. Plc., acting within its contractual rights, obliges P. Plc., the prime contractor, to pay a penalty for the delay. P. Plc. imposes this obligation on M. Ltd.

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[54] Csizmadia, Peter – Mako, Csaba (2003): The Cooperation of Small Sized Enterprises in the New Media Sector, Budapest, *Institute of Sociology, Hungarian Academy of Sciences.*

2.3 Knowledge and skills required to perform tasks

The individual partners joined the project with different knowledge, skills and expertise. Different professional competencies were required to perform the individual sub-tasks. Besides, positions taken by the partners in the project organization were also different. As we are going to describe in detail, one of the main sources of problems was the unclear competences, and the lack of the coordination of these competences in order to carry out jointly one particular common task. This backs up one of the most important conclusions drawn from a previous example: in the operation of enterprise networks—especially in knowledge-intensive sectors such as new media—the capacity *to integrate* various knowledge and skills is of utmost importance.

P. Plc. participated in the cooperation by designing the image of the portal and fully managing the project. In their case, it was a unique combination of professional, business and social knowledge that was needed. Within the organization, these components of knowledge were present in a segmented way. The various forms of competence can be acquired in formal education to a different extent. The majority of skills and competences that are prerequisites for the successful integration of the cooperation (market acquisition skills, management and organization skills, etc.) can be learnt or developed only in several years of work experience.

A characteristic feature of Internet-based projects is that they are accomplished via the cooperation of several partners, due to the division of competences. That is the reason why the coordination of the individual partners' behaviour is of primary significance. The person or people in charge of managing the projects have to be versatile in terms of skills and competences; they need a certain degree of technological expertise to ensure control over the project, furthermore they need the skills to "liase" between the client and the contractor. Specifically, they should be able to "translate" the demands of the client into practical tasks to be implemented. In other words, they need to be able to integrate the diverging viewpoints and interests of the parties involved. Such skills are very difficult to formalize.

"The internal project manager should be inter-disciplinary, because it is he who talks about design, texts, site-structures, navigation, usability and technology. He always has to feel the priorities and their changes, and he has to be able to manage them" (H. K., branch manager, P. Plc.)

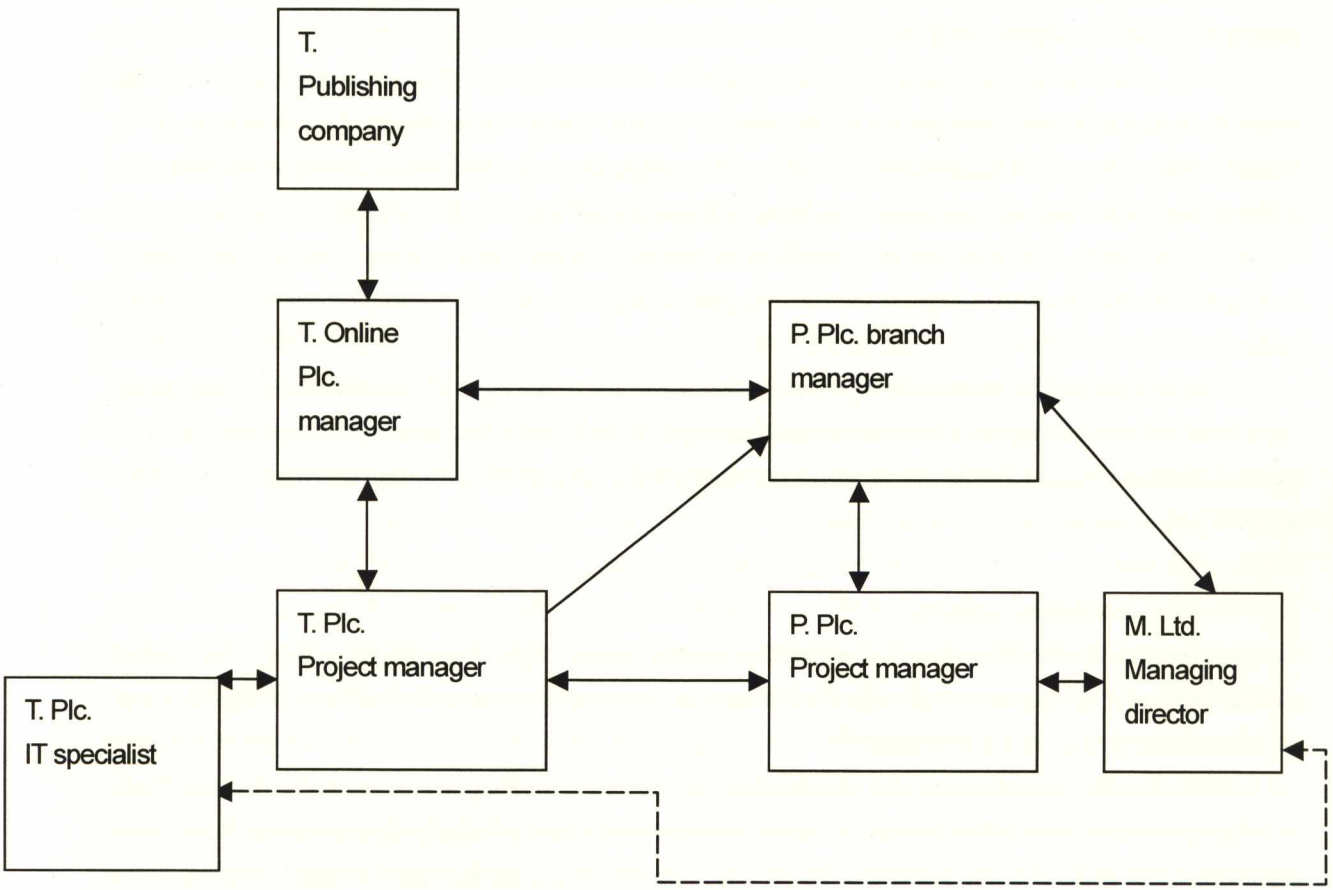
M. Ltd. contributed to the project with its technological expertise. In addition to professional competence, they had to manage the activities of the developers' team within the company. Web developments are the outcome of a cooperative activity; therefore, they primarily presuppose organizational skills, the skill to define a task and control its implementation. The cooperation among developers is based on relationships of trust. In the case of M. Ltd., their resources turned out to be insufficient for the completion of the task; therefore, there were some changes in the staff within the company, and in the last phase of the project P. Plc. "lent" a developer to M. Ltd. *"This was a prima donna type of firm with one excellent expert, the driving force, and three to four colleagues of lower professional standards. This is a viable set-up when minor tasks are to be solved. But in the case of a project of a scale such as the editorial portal of T. was, it didn't work. Today people working for a firm are mediocre or average in their fields, but they complement each other. This is a much more stable mode of operation." (T.P., Managing Director, M. Ltd.)*

In new media projects, the role of the client is of outstanding importance, as it is mostly the client's service and/or content that has to be digitized. The Swedish example shows that in the interactive media sector, the client has a significant role to play both in coordination and in professional questions (Sandberg – Augustsson, 2002). No similar data are available for the Hungarian new media sector. Generally speaking, due to the difficulties in the planning of new media projects, which are of an innovative nature, the client has to be technologically up to a certain standard, and be able to integrate the project into its own organizational

processes, for example, to handle the potentially conflicting interests between the project and its internal processes, or to manage the need for additional resources. *"The suitable client is the precondition for managing a project, though obviously a lot depends on the translator as well. We couldn't make T. understand that a new system is being born in the project, and therefore they need to be able to invest on an ongoing basis." (H.K., branch manager, P. Plc.) "The client should by all means be technically sensitive, so that he can compress his ideas into a technical frame. There is always a tendency to be too 'ambitious,' people think they have a website, where this and that should be displayed, and they plan things that are mostly unnecessary and absolutely not feasible." (I. G., advisor)*

2.4 The building and maintenance of the network

Cooperation among companies was developed within a formally structured hierarchical project organization. P. Plc., who maintained the direct contact with the client, was in charge of managing the project. The following figure illustrates the formal and informal relations among the parties:



The partners were in a contractual relationship. T. Online Plc. concluded a contract with P. Plc., and P. Plc. as the prime contractor signed a contract with M. Ltd. M. Ltd. did not know the contents of the prime contract between T. Online Plc. and P. Plc. When signing the contract, the parties also agreed upon the tasks to be implemented. K. Plc. and M. Ltd. worked out a joint action plan that included the deadlines of the different subtasks and the consultation nodes.

From the beginning, the communication between the participants was organized according to a complex pattern. The general manager of T. Online Plc., as the representative of the clients, was responsible for the final implementation of the project, and he communicated with the owner of the publishing house. The publishing house managed the budget; here the T. Online Plc. had no decision-making power. Two contact persons were assigned: a project manager and a technical contact person responsible for IT. They were responsible to the management of T. Online Plc., while on the task level they communicated with P. Plc.

The business unit manager was responsible for the project at P. Plc. A team consisting of two people, the project manager and an assistant, was set up to manage the project. Originally it was decided that the assigned project manager would be responsible for managing the whole project, keeping the deadlines, managing communication among the parties, and solving minor problems.

At M. Ltd., the managing director coordinated the work of the developers, and he was also responsible for project management.

According to the original plans, communication between the parties would have been mediated by P. Plc. Communication took place electronically and also personally. The latter was facilitated by the fact that the developers' team of M. Ltd. also used the physical infrastructure of P. Plc., i.e., they practically moved to the premises of P. Plc. during the project.

As it was planned originally, the communication was documented, memos were made about the meetings, and the project manager of P. Plc. had to deliver weekly status reports. However, during the implementation phase, the actors failed to maintain the originally designated frame of communication. An informal communication channel came into being between the Information Technology (IT) specialist of T. Plc. and the manager of M. Ltd. The primary aim was to manage the interim technological problems, but later P. Plc., which was formally responsible for the management of the whole project, completely lost control of the channel.

Contacts among the companies were developing according to the logic of hierarchical networks. At the same time, the relationships in this space of social connections were not solely determined by technical tasks, but also by the informal relations which developed on the basis of individual interests and joint values of the different parties.

2.5 Relations among the partners

Cooperation among the parties was impeded by several factors right from the beginning. The parties participated in the cooperation with different business and individual interests and different obligations that could not be integrated during the project.

T. Online Plc. was a key account. Although it was not one of the biggest customers, the fact that it was an economic weekly with a high reputation meant that there was a strong desire to cooperate with them. Thus they had a strong interest representation power vis-à-vis the suppliers. We have already mentioned the significant role of the client within the framework of new media projects. During the cooperation, the problem emerged that they were not able to fully integrate development in their own processes. During the course of interactive media projects, it is a general problem that the IT of the client is not always interested in the implementation of the process.

"It is typical that there is a part of the process at the end of which it is revealed that the IT of the client has not been finalized on time as there are no sanctions; the project manager is not the boss of the IT staff within the organization. Their sole interest is that they should not be accountable for the implementation of their own tasks. There is no project organization in the client organization, and in the end they just start saying:

'Look, you are not my boss.' (...) It was difficult to work together with their management. What they saw was that we are a small development company, not as big as they are used to. When we presented a non-traditional development plan, they said that it did not fit their security policy, which is of course something that can and should be changed. So what happened was that there was a new component put into their regulated IT system for which some extra work had to be invested, which of course was not paid for. There are a lot of expectations here for innovation as there are no developed technologies, and you cannot expect this innovation skill from the IT people of the client. It becomes a debate on the competencies, and there are no obvious truths in the world of IT." (K. H., branch manager, P. Plc.)

It was a technical obstacle in the cooperation that the organizational and internal hierarchical system of the client impeded the integration of the integration of the processes. It was a special problem that the project manager of the client who supervised the project did not have the necessary skills to manage the tasks.

"I think the problem was in the coordination here; the external project manager was not given a full mandate, and the internal project managers are usually not adequately qualified in this field; they have common sense and they also receive some training, but they are not IT specialists and they are unable to fully understand the problem. The other important symptoms are inexperience and young age. Often an easily manageable issue ends up in a conflict as they simply transgress the limits of professionalism and become personal." (K. H., branch manager, P. Plc.)

All this draws attention to the complex nature of the knowledge and competence necessary to manage interactive media projects. The necessary competence means in-depth knowledge of a specific activity, and thorough and comprehensive knowledge about the entire interactive media process, but social competence, network building and initiative abilities are also important. (Sandberg – Augustsson, 2002, 26.p.)

At this stage a complex problem emerges. In our second case study we have already indicated that professional skills related to interactive media become obsolete rapidly and it is difficult to obtain them in the framework of formal training. This is why on-the job training is so highly important in the field of new media. It is even more necessary in the case of social knowledge and competence, which are difficult to formalise (e.g. organizational or network-building ability) and which can only be obtained through long work experience.

In the case of the analyzed project, these competence elements were also insufficient at P. Plc. The project manager did not have the necessary competence, and he could not integrate the different skills of the developers who were not hierarchically related to each other. Thus the role of the "broker," which is indispensable for the coordination of the cooperation, and through which the different skills and types of knowledge could have been decoded and integrated, was missing. It is partly due to this fact that there was no norm and sanction system set up which could have integrated the different interests.

"I think that it was a technical mistake that they did not delegate a professional project manager to implement this very important task, but chose a beginner who was a sort of decorative project manager. They assigned a project manager to a key account who did not have the necessary technical skills and experience. He was not a project manager, but a kind of project status indicator. So he did not have the managerial role in the project as he lacked the necessary professional knowledge. He should have been able to manage his partners. They could not have an oversight, so they did not realize after the third or fourth delay that it should not be managed this way and there should be a general change in the cooperation. There have been so many changes during the project - the expectations, the platforms and lots of other things have changed; we went through a 180-degree technological change, but this general problem has not been mentioned by anyone any time." (P.T. managing director, M. Ltd.)

M. Ltd. also undertook the assignment because of the key account. At the same time, they expected that through the development they would be able to finalize their editorial system, which was only semi-finished at the time of the project, and later use it as a reference. The cooperation was impeded by the fact that the resources were also not adequately integrated within M. Ltd. As a result of this, there were changes in the staff at mid-term which further slowed down the process. The M. Ltd. managing director realized the deficiencies of the project management, and the consequent structural hole in the cooperation. He made attempts to undertake managerial functions in line with his interests, but his position in the project structure and the lack of skills necessary to implement these tasks hindered his attempts.

"After a while I managed the issues and often times I also undertook K.'s tasks as well, but I was not suitable for the role. I could not plan the schedule, but I treated the whole thing as a developer. A project manager should call the alarm at the second or third delay that the deadlines are not met, and he should take immediate actions." (P.T., managing director, M. Ltd.)

2.5.1 Trust

To establish trust during the cooperation is a time consuming process, which is based on on-the-job learning and burdened by several conflicts. The success of this process depends on getting to know the professional and moral intentions of the participants. In our case, real trust-based relations could not have been established due to several reasons. The cooperating partners did not have common work experiences previously, and they could not set up a regulatory system that could have integrated the specific interests.

All this is the consequence of the complexity of the system; the operation of the network should have been integrated at least at two levels - the level of the particular organizations and the network. The integrator, P. Plc., should have had a key role in this process, but they failed to implement this task.

Trust is a procedure-regulating mechanism in which the long-term interests of the involved parties are important. Usually three elements of this mechanism are highlighted: professional expertise, moral competence, and behavior according to common norms. In our case, P. Plc. placed a strong preliminary trust in M. Ltd., which meant that there was no time to develop experience that would have enabled the participants to test and control the above elements. Without this, mechanisms regulating the cooperation should have been put in place that could have established common values and norms, i.e., which could have integrated the different interests of the parties. The long-term integration of interests failed partly due to the strong interest representation position of T. Online Plc., and partly due to the fact that there were no adequate cooperation mechanisms operating *within* the particular organizations of the participants.

The disintegrated relations and the lack of common norms and values reinforced the competing behavior and not the cooperation of the parties. All this practically led to the deterioration of trust-based relationships, overshadowing the long-term reciprocity that is the basis for them.

2.6 Relations with the community

The operation of communities of practice – closed professional circles - is typical of the Hungarian new media sector. It is partly due to the geographical concentration of the sector (mainly in Budapest and in some major university towns), and partly to the similar age and socialization of the people working in this sector. (Employees in their twenties are the majority in the multimedia sector.)

The role of these informal communities of practice is dual: on the one hand they promote the exchange of professional and business information, and on the other hand, these relationships outside the workplace also

influence on-the-job behavior. The world of labor and the world of private life are not separated in this profession.

In this community, exchange of information beyond the boundaries of organizations is regarded as normal, which is basically due to the fact that relevant professional information is not available through formal training channels. However, sharing business information only occurs in closer micro-networks with stronger links.

"Everybody knows everybody; informal relations are very important. Basically we discuss everything related to others in the market, and there are also some people – but their number is definite - with whom we also discuss personal things. In certain areas, for example among those working in the online advertising market, it is even more intensive; very young people work there and also at the sales departments of agencies and the media and regularly go to a pub together every week. You can get the most valuable information through this channel, if you only write letters and read the news; well then, I don't really know how you can decode the message there into relevant information; in the end you get completely isolated. We get these newsletters full of information, and I don't understand what they are about. You must see behind the scenes and then the whole thing is completely different." (G. I., consultant)

Strong links beyond the world of labor facilitate the provision of coded information, while at the same time they also restrict the players in representing their interests. *"The problem is that when there is a relationship between two people and then you approach the client with this: Look, you must understand that it will cost more, and then he says: OK, I understand but I cannot do anything, what can you do then? Stop the project? Then you also endanger his position. Or you try to make a deal but he says no. First you are great friends and then perhaps a completely irrational withdrawal. Distance does not mean that there is no trust, but in the case of distance, trust is based on professionalism." (K. H., P. Plc. branch manager)*

The feeling of belonging together is strong among the players, while formal connections with the wider professional community are not typical. The informal connections of the sector cannot become institutionalized. The reason is basically the young age of those working in the sector and the lack of resources. In the past few years, there have been some initiatives to launch educational programs. There is a new foundation being established under the name of the New Media Center, but this center has not been created in order to represent and protect interests, but to install a quality assurance system to protect professional quality.

3. Summary

In our case study we tried to draw attention to the problems related to the cooperation of small companies in the Hungarian new media market. The model of relationships presented in the study illustrates the fact that the enterprises surveyed do not operate in close social communities, while their economic behavior is influenced by social norms and values that are primarily established in communities of practice based on informal professional and human relationships.

Trust relationships determining the behavior of parties could not survive in the long run, because during the highly specialized division of tasks, the two-level integration could not be established at the level of the participating organizations and the whole cooperation. This integration would have been able to ensure the establishment of a solid system of norms and values that would have created a framework of sustainable relationships of trust.

4. Notes

(1) New media or interactive media... refers to companies developing interactive products or services, integrating text, graphics, sound, vision and video (multimedia or multimodal) products. This incorporate both companies producing entire interactive media solutions, and those contributing parts of the production... The platform or information carrier is on-line (Internet, intranet), off-line (CD-ROM, DVD, information kiosk, etc.) or wireless, mobile Internet (WAP, GPRS, etc.). (Sandberg-Augustsson, 2002: 3).

(2) XML is a W3C specification marketed in 1998. It is a descriptive program language whose aim is to overcome the deficiencies of HTML, which is considered to be the basic language of the web. The primary function is the establishment of multimedia documents, and links in and between them.

Methodology

In the case study, we presented the operation of the entrepreneurial network of two companies. During the research we did not follow the logic of representativity, because our aim was to fully explore the relationships between the particular participants and the influencing economic and social regulatory mechanisms. Thus, we collected qualitative data. We conducted five structured in-depth interviews with the participants of the project, the general managers of K. and M. Ltd., and one of the process consultants in Budapest. We could involve three participants in the research. Unfortunately, the management of the economic weekly that ordered the project decided not to allow his colleagues to participate in the research. We would like to express our thanks to the interviewees for their support during our work.